Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for manufacturing a hermetically sealed micro-device package encapsulating a micro-device and including a transparent window allowing light to pass into and out of a cavity containing the micro-device, the method comprising the following steps:

preparing, on a semiconductor substrate having a micro-device operably disposed thereupon, a first frame-attachment area having a plan that circumscribes the micro-device;

preparing, on a sheet of transparent material, a second frame-attachment area having a plan that circumscribes a window aperture portion of the sheet;

positioning, between the semiconductor substrate and the transparent sheet, a ~~frame/spacer~~ of gas-impervious material including a continuous sidewall having a plan on one side substantially corresponding to, and substantially in register with, the plan of the first frame-attachment area, having a plan on the opposite side substantially corresponding to, and substantially in register with, the plan of the second frame-attachment area, and having a height that exceeds the height of the micro-device as disposed on the substrate; and

bonding the substrate, ~~frame/spacer~~ and transparent sheet together to form a hermetically sealed package encapsulating the micro-device in a cavity below the window aperture portion of the sheet.

2. (Original) A method in accordance with claim 1, wherein the semiconductor substrate is substantially formed of silicon (Si).

3. (Original) A method in accordance with claim 1, wherein the semiconductor substrate is substantially formed of gallium arsenide (GaAs).

4. (Original) A method in accordance with claim 1, wherein:

the step of preparing the first frame-attachment area comprises depositing metallic layers onto the semiconductor substrate; and

the step of preparing the second frame-attachment area comprises depositing metallic layers onto a surface of the transparent sheet.

5. (Currently amended) A method in accordance with claim 4, wherein the ~~frame/spacer~~ is formed of a material having a CTE substantially matched to the CTE of the transparent sheet and to the CTE of the semiconductor substrate.

6. (Original) A method in accordance with claim 1, wherein during the step of bonding, the temperature of the window aperture portion of the sheet remains below the glass transition temperature (T_G) of the transparent material.

7. (Withdrawn) A hermetically sealed micro-device package encapsulating a micro-device and including a transparent window allowing light to pass into and out of a cavity containing the micro-device, comprising:

a semiconductor substrate having a micro-device operably disposed thereupon, the substrate having a first frame-attachment area formed thereupon having a plan that circumscribes the micro-device;

a sheet of transparent material having a window aperture portion defined thereupon, the sheet having a second frame-attachment area formed thereupon having a plan that circumscribes the window aperture portion; and

a frame/spacer positioned between, and hermetically bonded to, the semiconductor substrate and the transparent sheet, the frame/spacer including a continuous sidewall having a plan on one side substantially corresponding to, and substantially in register with, the plan of the first frame-attachment area, having a plan on the opposite side substantially corresponding to, and substantially in register with, the plan of the

second frame-attachment area, and having a height that exceeds the height of the micro-device.

8. (Currently amended) A method for simultaneously manufacturing multiple hermetically sealed micro-device packages, each package encapsulating a micro-device and including a transparent window aperture allowing light to pass into and out of a cavity containing the micro-device, the method comprising the following steps:

preparing, on a unitary semiconductor substrate having a plurality of micro-devices operably disposed thereupon, a first frame-attachment area having a plan that circumscribes each of the micro-devices;

preparing, on a unitary sheet of transparent material, a second frame-attachment area having a plan that circumscribes a plurality of transparent window aperture portions of the sheet;

positioning, between the semiconductor substrate and the transparent sheet, a frame~~/spacer~~ of gas-impervious material including a plurality of sidewalls, the sidewalls collectively having a plan on one side of the frame~~/spacer~~ that substantially corresponds to, and is substantially in register with, the plan of the first frame-attachment area, having a plan on the opposite side of the frame~~/spacer~~ that substantially corresponds to, and is substantially in register with, the plan of the second frame-attachment area, and having a height that exceeds the height of the micro-devices as disposed on the substrate;

bonding the semiconductor substrate, frame~~/spacer~~ and transparent sheet together to form a multi-package assembly having a plurality of hermetically sealed cavities separated from one another by the frame~~/spacer~~ sidewalls, each of the cavities containing one of the micro-devices positioned below one of the window aperture portions of the sheet; and

dividing the multi-package assembly into individual packages by parting completely through the substrate, frame~~/spacer~~ sidewall and transparent sheet at locations between

adjacent cavities;

whereby each individual package will encapsulate one of the micro-devices in a hermetically sealed cavity and include a transparent window aperture allowing light to pass into and out of the cavity.

9. (Original) A method in accordance with claim 8, wherein the semiconductor substrate is substantially formed of silicon (Si).

10. (Original) A method in accordance with claim 8, wherein the semiconductor substrate is substantially formed of gallium arsenide (GaAs).

11. (Original) A method in accordance with claim 8, wherein:

the step of preparing the first frame-attachment area comprises depositing metallic layers onto the semiconductor substrate; and

the step of preparing the second frame-attachment area comprises depositing metallic layers onto a surface of the transparent sheet.

12. (Currently amended) A method in accordance with claim 11, wherein the frame~~/spacer~~ is formed of a material having a CTE substantially matched to the CTE of the transparent sheet and to the CTE of the semiconductor substrate.

13. (Original) A method in accordance with claim 8, wherein during the step of bonding, the temperature of the window aperture portions of the transparent sheet remains below the glass transition temperature (T_G) of the transparent material.

14. (New) A method in accordance with claim 1, wherein the step of bonding further comprises:

pressing the substrate and the sheet against the frame with sufficient force to produce a first

predetermined contact pressure along a first junction region between the frame and the first frame-attachment area of the substrate and a second predetermined contact pressure along a second junction region between the frame and the second frame-attachment area of the sheet;

heating the first junction region to produce a first predetermined temperature along the first junction region;

heating the second junction region to produce a second predetermined temperature along the second junction region;

maintaining the first predetermined contact pressure and the first predetermined temperature until a diffusion bond is formed between the frame and the substrate all along the first junction region; and

maintaining the second predetermined contact pressure and the second predetermined temperature until a diffusion bond is formed between the frame and sheet all along the second junction region.

15. (New) A method in accordance with claim 14, wherein the step of pressing the substrate and the sheet against the frame is performed before the steps of heating the first and second junction regions.

16. (New) A method in accordance with claim 15, wherein the steps of heating the first and second junction regions are performed simultaneously.

17. (New) A method in accordance with claim 15, wherein the steps of heating the first and second junction regions are performed sequentially.

18. (New) A method in accordance with claim 14, wherein the steps of heating the first and second junction regions are performed before the step of pressing the substrate and the sheet against the frame.

19. (New) A method in accordance with claim 18, wherein the steps of heating the first and second junction regions are performed simultaneously.

20. (New) A method in accordance with claim 18, wherein the steps of heating the first and second junction regions are performed sequentially.

21. (New) A method in accordance with claim 14, wherein the steps of pressing the substrate and the sheet against the frame, of heating the first junction region, and of heating the second junction region are performed simultaneously.

22. (New) A method in accordance with claim 14, wherein the steps of heating the first and second junction regions are performed simultaneously.

23. (New) A method in accordance with claim 8, wherein the step of bonding the semiconductor substrate, frame and transparent sheet together further comprises:

pressing the substrate and the sheet against the frame with sufficient force to produce a first predetermined contact pressure along a first junction region between the frame and the first frame-attachment area of the substrate and a second predetermined contact pressure along a second junction region between the frame and the second frame-attachment area of the sheet;

heating the first junction region to produce a first predetermined temperature along the first junction region;

heating the second junction region to produce a second predetermined temperature along the second junction region;

maintaining the first predetermined contact pressure and the first predetermined temperature until a diffusion bond is formed between the frame and the substrate all along the

first junction region; and

maintaining the second predetermined contact pressure and the second predetermined temperature until a diffusion bond is formed between the frame and sheet all along the second junction region.

24. (New) A method in accordance with claim 23, wherein the step of pressing the substrate and the sheet against the frame is performed before the steps of heating the first and second junction regions.

25. (New) A method in accordance with claim 24, wherein the steps of heating the first and second junction regions are performed simultaneously.

26. (New) A method in accordance with claim 24, wherein the steps of heating the first and second junction regions are performed sequentially.

27. (New) A method in accordance with claim 23, wherein the steps of heating the first and second junction regions are performed before the step of pressing the substrate and the sheet against the frame.

28. (New) A method in accordance with claim 27, wherein the steps of heating the first and second junction regions are performed simultaneously.

29. (New) A method in accordance with claim 27, wherein the steps of heating the first and second junction regions are performed sequentially.

30. (New) A method in accordance with claim 23, wherein the steps of pressing the substrate and the sheet against the frame, of heating the first junction region, and of heating the second junction region are performed simultaneously.

31. (New) A method in accordance with claim 23, wherein at least one of the steps of heating the first junction region and of heating the second junction region utilizes electrical resistance heating to supply at least a portion of the heat required.

32. (New) A method in accordance with claim 31, wherein at least one of the steps of heating the first junction region and of heating the second junction region also utilizes a furnace to supply at least a portion of the heat required.

33. (New) A method for simultaneously manufacturing multiple hermetically sealed micro-device packages, each package encapsulating a micro-device assembly and including a radiation transparent window aperture allowing radiation to pass into and out of a cavity containing the micro-device assembly, the method comprising the following steps:

preparing, on a semiconductor substrate having a plurality of micro-device assemblies operably disposed thereupon, a first frame-attachment area that circumscribes each of the micro-device assemblies;

preparing, on a sheet of radiation transparent material, a second frame-attachment area that circumscribes a plurality of radiation transparent window aperture portions of the sheet;

positioning, between the semiconductor substrate and the transparent sheet, a frame of gas-impervious material including a plurality of sidewalls, the sidewalls on one side of the frame substantially corresponding to, and substantially in register with, the first frame-attachment area, the sidewalls on the opposite side of the frame substantially corresponding to, and substantially in register with, the second frame-attachment area, and the sidewalls having a height that exceeds the height of the micro-device assemblies as disposed on the substrate;

bonding the semiconductor substrate, frame and transparent sheet together to form a multi-package assembly having a plurality of hermetically sealed cavities separated from

one another by the frame sidewalls, each of the cavities containing one of the micro-device assemblies positioned below one of the radiation transparent window aperture portions of the sheet; and

dividing the multi-package assembly into individual packages by parting through the substrate and transparent sheet at locations between adjacent cavities;

whereby each individual package will encapsulate one of the micro-device assemblies in a hermetically sealed cavity and include a radiation transparent window aperture allowing radiation to pass into and out of the cavity.

34. (New) A method in accordance with claim 33, wherein the step of bonding the semiconductor substrate, frame and transparent sheet together further comprises:

pressing the substrate and the sheet against the frame with sufficient force to produce a first predetermined contact pressure along a first junction region between the frame and the first frame-attachment area of the substrate and a second predetermined contact pressure along a second junction region between the frame and the second frame-attachment area of the sheet;

heating the first junction region to produce a first predetermined temperature along the first junction region;

heating the second junction region to produce a second predetermined temperature along the second junction region;

maintaining the first predetermined contact pressure and the first predetermined temperature until a diffusion bond is formed between the frame and the substrate all along the first junction region; and

maintaining the second predetermined contact pressure and the second predetermined temperature until a diffusion bond is formed between the frame and sheet all along the second junction region.